and during the first 2,160 quality-assured monitoring operating hours following initial certification of the flow monitor, the owner or operator shall provide substitute data for heat input calculated under section 5.2 of appendix F of this part by substituting the CO_2 or O_2 concentration measured or substituted according to paragraph (b) of §75.31, and by substituting the flow rate measured or substituted according to §75.31.

(c) Upon completion of the first 720 quality-assured monitor operating hours following initial certification of the CO_2 (or O2) pollutant concentration monitor, the owner or operator shall provide substitute data for CO_2 or O_2 concentration to calculate heat input or shall substitute heat input determined under appendix F of this part according to the procedures in paragraphs (c)(1), (c)(2), or (c)(3) of this section. Upon completion of 2,160 quality-assured monitor operating hours following initial certification of the flow monitor, the owner or operator shall provide substitute data for volumetric flow according to the procedures in §75.33 in order to calculate heat input, unless required to determine heat input using the fuel sampling procedures in appendix F of this part under paragraphs (c)(1), (c)(2) or (c)(3) of this section.

(1) Whenever a quality-assured monitor operating hour of CO_2 or O_2 concentration data has not been obtained and recorded for a period less than or equal to 72 hours or for a missing data period where the percent monitor data availability for the CO_2 or O_2 pollutant concentration monitor as of the last unit operating hour of the previous calendar quarter was greater than or equal to 90.0 percent, the owner or operator shall substitute the average of the recorded CO_2 or O_2 concentration for the hour before and the hour after the missing data period for each hour in each missing data period to calculate heat input.

(2) Whenever a quality-assured monitor operating hour of CO_2 or O_2 concentration data has not been obtained and recorded for a period of 72 consecutive unit operating hours or more, the owner or operator shall begin substituting heat input calculated using the procedures in section 5.5 of appendix F of this part beginning with the seventy-third hour of the missing data period until quality-assured CO_2 or O_2 concentration data are again available. The owner or operator shall use the CO_2 or O_2 concentration from the hour before the missing data period to substitute for hours 1 through 72 of the missing data period.

(3) Whenever no quality-assured CO_2 or O_2 concentration data are available for a period where the percent monitor data availability for the CO_2 continuous emission monitoring system (or O_2 diluent monitor) as of the last unit operating hour of the previous calendar quarter was less than 90.0 percent, the owner or operator shall substitute heat input calculated using the procedures in section 5.5 of appendix F of this part for each hour of the missing data period until quality-assured CO_2 or O_2 concentration data are again available.

(d) For a unit that has no diluent monitor certified during the period between the certification deadline in §75.4(a) for flow monitoring systems and the certification deadline in §75.4(a) for NO_X and CO_2 continuous emission monitoring systems, the owner or operator shall calculate heat input using the procedures in section 5.5 of appendix F of this part until quality-assured data are available from both a flow monitor and a diluent monitor.

[60 FR 26530, May 17, 1995]

Subpart E—Alternative Monitoring Systems

§75.40 General demonstration requirements.

(a) The owner or operator of an affected unit, or the owner or operator of an affected unit and representing a class of affected units which meet the criteria specified in §75.47, required to install a continuous emission monitoring system may apply to the Administrator for approval of an alternative monitoring system (or system component) to determine average hourly emission data for SO_2, NO_x, and/or volumetric flow by demonstrating that the alternative monitoring system has

the same or better precision, reliability, accessibility, and timeliness as that provided by the continuous emission monitoring system.

(b) The requirements of this subpart shall be met by the alternative monitoring system when compared to a contemporaneously operating, fully certified continuous emission monitoring system or a contemporaneously operating reference method, where the appropriate reference methods are listed in § 75.22.

§ 75.41 Precision criteria.

(a) *Data collection and analysis.* To demonstrate precision equal to or better than the continuous emission monitoring system, the owner or operator shall conduct an F-test, a correlation analysis, and a t-test for bias as described in this section. The t-test shall be performed only on sample data at the normal operating level and primary fuel supply, whereas the F-test and the correlation analysis must be performed on each of the data sets required under paragraphs (a)(4) and (a)(5) of this section. The owner or operator shall collect and analyze data according to the following requirements:

(1) Data from the alternative monitoring system and the continuous emission monitoring system shall be collected and paired in a manner that ensures each pair of values applies to hourly average emissions during the same hour.

(2) An alternative monitoring system that directly measures emissions shall have probes or other measuring devices in locations that are in proximity to the continuous emission monitoring system and shall provide data on the same parameters as those measured by the continuous emission monitoring system. Data from the alternative monitoring system shall meet the statistical tests for precision in paragraph (c) of this section and the t-test for bias in appendix A of this part.

(3) An alternative monitoring system that indirectly quantifies emission values by measuring inputs, operating characteristics, or outputs and then applying a regression or another quantitative technique to estimate emissions, shall meet the statistical tests for precision in paragraph (c) of this section and the t-test for bias in Appendix A of this part.

(4) For flow monitor alternatives, the alternative monitoring system must provide sample data for each of three different exhaust gas velocities while the unit or units, if more than one unit exhausts into the stack or duct, is burning its primary fuel at:

(i) A frequently used low operating level, selected within the range between the minimum safe and stable operating level and 50 percent of the maximum operating level,

(ii) A frequently used high operating level, selected within the range between 80 percent of the maximum operating level and the maximum operating level, and

(iii) The normal operating level, or an evenly spaced intermediary level between low and high levels used if the normal operating level is within a specified range (10.0 percent of the maximum operating level), of either paragraphs (a)(4) (i) or (ii) of this section.

(5) For pollutant concentration monitor alternatives, the alternative monitoring system shall provide sample data for the primary fuel supply and for all alternative fuel supplies that have significantly different sulfur content.

(6) For the normal unit operating level and primary fuel supply, paired hourly sample data shall be provided for at least 90.0 percent of the hours during 720 unit operating hours. For each of the remaining two operating levels for flow monitor alternatives, and for each alternative fuel supply for pollutant concentration monitor alternatives, paired hourly sample data shall be provided for at least 24 successive unit operating hours.

(7) The owner or operator shall not use missing data substitution procedures to provide sample data.

(8) If the collected data meet the requirements of the F-test, the correlation test, and the t-test at one or more, but not all, of the operating levels or fuel supplies, the owner or operator may elect to continue collecting the paired data for up to 1,440 additional operating hours and repeat the statistical tests using the data for the entire 30- to 90-day period.